#### **PCT**

## WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau

#### INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

INTERNATIONAL APPLICATION TO DEBBILLO GROUND THE THIRD TO GO TELETION TO THE THIRD TO THE THIRD THE THE THE THE THE THIRD THE							
(51) International Patent Classification <sup>5</sup> :	1 4 4	(11) International Publication Number: WO 94/27231					
G06F 15/20, G06K 15/00		(43) International Publication Date: 24 November 1994 (24.11.94)					
(21) International Application Number:	PCT/US94/0560	(81) Designated States: AT, AU, BB, BG, BR, BY, CA, CH, CN,					

•

19 May 1994 (19.05.94)

(30) Priority Data:

08/065,218

(22) International Filing Date:

19 May 1993 (19.05.93)

US

(71)(72) Applicant and Inventor: HYUN, David, K. [US/US]; 655 North Sunny Slope Avenue, Pasadena, CA 91107 (US).

(74) Agent: RAHN, LeRoy, T.; Christie, Parker & Hale, P.O. Box 7068, Pasadena, CA 91109-7068 (US). CZ, DE, DK, ES, FI, GB, HU, IP, KP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

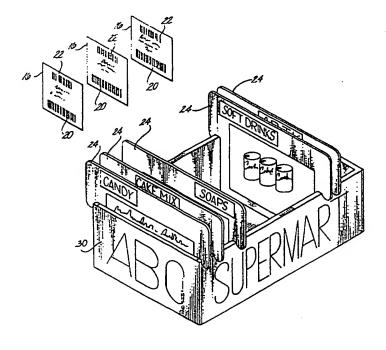
Published

With international search report.

(54) Title: METHOD AND PRODUCT FOR ORGANIZING, STORING AND TRACKING CENTS-OFF COUPONS

#### (57) Abstract

A bar code (20) uniquely identifying a single user or user group is printed on a plurality of cents-off coupons (16) naming various products. A plurality of file dividers (24) are inserted in a coupon storage container (30) to form separate compartments for coupon storage. The coupons are placed in the compartments sorted by product. The coupons are selectively removed from the compartments for the purpose of redemption. The bar code printed on the coupons is optically read (32) in the course of purchasing products named on the coupons to generate data about the user or user group. The divider cards can also have printed thereon a bar code (20) uniquely identifying the user or user group. The coupons and/or divider cards can have printed thereon a bar code (22, 29) identifying the particular product named on the respective coupons and/or divider cards.



#### FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

		GB	United Kingdom	MR	Mauritania
AT	Austria	-	•	MW	Malawi
ΑŪ	Australia	GE	Georgia		
BB	Barbados	GN	Guinea	NB	Niger
BE	Belglum	GR	Greece	NL	Netherlands
BF	Burkina Faso	BU	Hungary	NO	Norway
BG	Bulgaria	DB	Ireland	NZ	New Zealand
BJ	Benin	IT	Italy	PL	Poland
BR	Brazil	JP	Japan	PT	Portugal
BY	Belarus	KE	Kenya	RO	Romania
CA	Canada	KG	Kyrgystan	RU	Russian Federation
CF	Central African Republic	KP	Democratic People's Republic	SID	Sudan
CG	Congo		of Korea	SE	Sweden
CH	Switzerland	KR	Republic of Korea	SI	Slovenia
CI	Côte d'Ivoire	KZ	Kazakhstan	SK	Slovakia
CM	Cameroon	Ц	Liechtenstein	SN	Senegal
CN	China	LK	Sri Laoka	TD	Chad
cs	Czechoslovakia	LU	Luxembourg	TG	Togo
· CZ	Czech Republic	LV	Latvia	TJ	Tajikistan
DE	Germany	MC	Monaco	TT	Trimidad and Tobago
DK	Deumark	MD	Republic of Moldova	UA	Ukraine
ES	Spain	MG	Madagescar	US	United States of America
FI	Finland	ML	Mali	UZ	Uzbekistan
FR	France	MN	Mongolia	VN	Viet Nam
GA	Gehon				

10

15

20

25

30

35

40

# METHOD AND PRODUCT FOR ORGANIZING, STORING AND TRACKING CENTS-OFF COUPONS

#### Background of the Invention

This invention relates to merchandising, advertising and consumer research vehicles and, more particularly, to a method and product for organizing, storing and tracking cents-off coupons.

U.S. Patent 4,795,196 discloses a method for organizing cents-off coupons and a coupon storage device that offer the opportunity to advertise name brand products and retail businesses. Specifically, a plurality of file divider cards fit in a coupon storage bin to form separate compartments in which coupons for different generic products are stored. Generic product descriptors are printed on one area of the respective file dividers. Different brand name product advertisements are printed on another area of the respective file dividers. The brand name product belongs to the class of a generic product, the descriptor of which is printed on the same divider as the advertisement of the brand name product. For example, an advertisement for Campbell's soups might be printed on a divider card on which the product descriptor "SOUPS" is printed. All the coupons for soups regardless of brand would be stored in the compartment behind this file divider. The name of a particular merchant is also preferably printed on the container. Thus, the file dividers present the opportunity to advertise brand name products and the coupon storage bin presents the opportunity to advertise a merchant.

U.S Patent 5,060,793 discloses a coupon storage device kit for use in practicing the method of the '196 patent. The kit comprises a substantially flat blank foldable into a storage bin and a plurality of divider sheets of defined divider cards for the storage bin. Preferably the blank and the divider sheets are wrapped in a plastic cover with sheets of cents-off coupons and the kit has external dimensions that permit it to be placed in a conventional brown paper shopping bag. The described kit is a convenient way to distribute the coupon storage device to consumers.

To improve the effectiveness of their marketing efforts, consumer product manufacturers and their advertising agencies expend substantial time and effort generating and analyzing data about the habits and practices of potential consumers of their products. Although such data is of great value, it is frequently costly and difficult to generate reliable data.

#### Summary of the Invention

The invention employs bar codes to track cents-off coupons so that consumer data can be generated when the coupons are redeemed.

One aspect of the invention is a method for organizing and tracking cents-off coupons. A bar code uniquely identifying a single user or user group is printed on a plurality of cents-off coupons naming various products. A plurality of file dividers are inserted in a coupon storage container to form separate compartments for coupon storage. The coupons are placed in the compartments sorted by product. The coupons are selectively removed from the compartments for the purpose of redemption. The bar code printed on the coupons is optically read in the course of purchasing

-2-

products named on the coupons to generate data about the user or user group.

5

10

Another aspect of the invention is a kit for storing cents-off coupons in an organized manner. A substantially flat blank is foldable into a storage bin. A plurality of divider sheets each have defined therein at least one divider card. The divider cards from the plurality of dividers sheets are insertable into the storage bin, thus separating the storage bin into individual compartments. A bar code uniquely identifying a single user or user group is printed on a plurality of cents-off coupons. Preferably, the blank, the divider sheets, and the coupons are wrapped in a plastic cover and are dimensioned to fit into a conventional brown paper shopping bag.

As a feature of the invention, the divider cards can also have printed thereon a bar code uniquely identifying the user or user group.

As another feature of the invention, the coupons and/or divider cards can have printed thereon a bar code identifying the particular product named on the respective coupons and/or divider cards.

The described system enables product manufactures and their advertising agencies to effectively advertise their products and to track consumer habits and practices.

10

#### **Brief Description of the Drawings**

The features of specific embodiments of the best mode contemplated of carrying out the invention are illustrated in the drawings, in which:

- FIG. 1 is a perspective view of a coupon storage device kit showing one side of the kit in its unassembled configuration.
- FIG. 2 is a perspective view of one of the sheets of coupons that comprise part of the kit of FIG. 1;
- FIG. 3 is a perspective view of one of the sheets of dividers that comprise part of the kit of FIG. 1;
  - FIG. 4 is a perspective view of the coupon storage device assembled from the kit of FIG. 1;
- FIG. 5 is a front and back view of a registration card that comprises part of the kit of FIG. 1; and
- FIG. 6 is a schematic diagram of a point of sale terminal reading the bar codes on a coupon from the kit of FIG. 1.

#### **Detailed Description of the Specific Embodiment**

The disclosures of U.S. Patents 4,795,196 and 5,060,793 are hereby incorporated fully by reference.

In FIG. 1 is shown a consumer product coupon storage device kit which comprises a blank 10, a plurality of divider sheets 11, and one or more sheets of cents-off coupons 12 wrapped in a transparent plastic cover 13. A registration card 14 is secured to the outside of cover 13 by glue, staples, or other means. Preferably, the kit has exterior dimensions that permit it to be placed in a conventional brown paper shopping bag 15 for carrying by the consumer. An identical registration card (not shown) is also included inside plastic cover 13 as a backup to card 14. A bar code 20 is printed on the surface of plastic cover 13. Bar code 20 represents a particular user or user group, preferably in UPC. A unique bar code is used for a particular user or user group such as a group of users in a certain geographic location or users having a certain ethnic background or income characteristics. Every other user or user group has its own unique bar code so that the buying patterns of the various users and user groups can be tracked.

As shown in FIG. 2, sheet 12 comprises a plurality of cents-off coupons 16 framed by perforations 18 to facilitate separation of the individual coupons from sheet 12. The names of different brand name products are printed on coupons 16. When the consumer shops in a retail establishment, the consumer separates the coupons for the brand name products he or she purchases and redeems the coupons to claim a price discount.

The same user or user group unique bar code 20 is also printed on each of coupons 16. An optional bar code 22, which is different for each brand name product, is also printed on coupons 16. Bar code 22 identifies the particular brand name printed on the coupon, preferably in UPC.

As shown in FIG. 3, divider sheets 11 each preferably have four individual file dividers 24 printed thereon. File dividers 24 are framed by perforations 26 to facilitate separation from sheet 11. Dividers 24 are dimensioned to fit into the interior space of a storage bin described below, which is assembled from blank 10 in the manner described in U.S. Patent 5,060,793.

Each divider 24 has a first visible field 27 adjacent to the top edge of the divider and a second field 28 that covers most of the rest of the surface of the divider. A different generic product descriptor is printed in the first field 27 of each divider. A brand name product advertisement is printed in the second field 28 of each divider. The brand name product belongs to the class of the generic product descriptor printed on the divider. For example, FIG. 3 shows divider cards having generic product descriptors of "SOFT DRINKS," "CAKE MIX," "CANDY" AND "SOAP." The advertisement printed on the divider having a generic descriptor of "SOFT DRINKS" is for COCA COLA brand soft drink. The back of each of the dividers (not shown in the drawings) has a field covering most of the back surface in which a brand name product advertisement is also printed. The brand name product can belong to the class of generic product, the descriptor which is printed on the same divider card as the advertisement of said brand name product, or to the class of the generic product, the descriptor of which is printed on the next adjacent or nearby divider card. Preferably, the same user or user group unique bar code 20 is also printed on each of dividers 28. An optional bar code 29, which is different for each brand name product, is also printed on dividers 16. Bar code

15

10

5

25

20

30

35

40

10

15

20

25

30

35

29 identifies the particular brand name advertised on the divider, preferably in UPC. Bar codes 22 and 29 could be printed on the rear side of the dividers, instead of the front side thereof. After a designated date, the dividers are redeemable as coupons. This encourages the consumer to use the dividers as coupons and to obtain a new kit with new coupons and product advertisements. As a result, the described system can be used to introduce new product advertisements on a periodic basis.

Registration card 14 is shown in detail in FIG. 5. The front of registration card 14 has the characteristics of a standard post card—i.e., an addressee, a return address, and a prepaid postage stamp. The back of registration card 14 has the same user or user group unique bar code 20, blanks for the consumer's name and address, and other consumer relevant data such as family size. The consumer is preferably encouraged to mail in the back up registration card with a premium or prize. This permits the issuer of the kits to associate the name and address of the consumer with the unique bar code 20 that is used on his or her kit.

If the kits are distributed at food markets or other retail establishments, the consumer presents his or her kit to the checker at the point of sale in the course of the sales transaction. The checker passes the kit over the optical reader to read bar code 20 on registration card 14 and/or cover 15 and to enter the consumer into the store computer as part of the sales transaction. This provides to the issuers of the coupons proof of the delivery of the coupons to the consumer and thus protects against misredemption of coupons.

To use the kit, the consumer assembles a coupon storage bin 30 from blank 10 as shown in FIG. 4. The consumer also separates file dividers 24 from sheet 11 and places the dividers in bin 10. The top corners of dividers 24 each have downwardly extending hooks that with the remainder of the side edges of the card form notches. The top of the bin has side edges which serve as rails to guide and support dividers 24 as they move parallel to the length of bin 10 and thereby adjust the size of the individual compartments. Bin 10 is deeper than the height of divider cards 24 from the bottom edge to the recess of the notches so that the bottom edge of dividers 24 do not rest on the bottom of bin 10. This serves to hold divider cards 24 in an upright position, i.e. vertical. The consumer then separates coupons 16 from sheet 12 and places coupon 16 in the compartments sorted by product, i.e. the coupons shown in FIG. 4 being in the soap compartment are coupons for different brands of soap. When the consumer shops for merchandise, the consumer selectively removes the coupons from the compartments for redemption and delivers the coupons along with the corresponding brand name merchandise to the checker at the point of sale.

As shown in FIG. 6, the checker passes the coupons to be redeemed across an optical scanner 32 at a point of sale terminal to read bar code 20 and optional bar codes 22 and 29. This data is transmitted to a store computer 34 for storage, tabulation, and eventual analysis of the purchasing habits and practices of the user or user group identified by the unique bar code.

The described embodiment of the invention is only considered to be preferred and illustrative of the inventive concept; the scope of the invention is not to be restricted to such embodiments. Various and numerous other arrangements may be devised by one skilled in the art without departing from the spirit and scope of this invention.

#### WHAT IS CLAIMED IS:

A method of organizing and tracking cents-off coupons comprising the steps of:
 printing on a plurality of product cents-off coupons naming various products a bar code
uniquely identifying a single user or user group;

inserting a plurality of file dividers in a container to form separate compartments for coupon storage;

placing the coupons in the compartments sorted by product;

selectively removing the coupons from the compartments for the purpose of redemption;

and

optically reading the bar code printed on the coupons in the course of purchasing products named by the coupons to generate data about the user or user group.

The method of claim 1, additionally comprising the steps of:
 printing on an area of the respective file dividers different generic product descriptors;

printing on another area of the respective dividers different brand-name product advertisements, the brand-name product belonging to the class of the generic product, the descriptor of which is printed on the same divider as the advertisement of said brand-name product.

20

5

10

15

3. The method of claim 2, additionally comprising the steps of:

printing on yet another area of the dividers a bar code uniquely identifying the user or
user group; selectively removing the dividers from the container for the purpose of
redemption; and

25

30

35

40

electronically reading the bar code printed on the dividers in the course of purchasing products named on the coupons to generate data about the user or user group.

- 4. The method of claim 2, additionally comprising the step of tabulating the data.
- 5. The method of claim 3, additionally comprising the step of analyzing the purchasing characteristics of the user or user group from the data.
  - 6. A consumer-product coupon storage device comprising:

a coupon storage bin having an open top with side edges and a cubical interior space;

a plurality of dividers adapted to fit in the bin to separate the space in the bin into individual compartments, each divider having first and second visible fields;

a plurality of product cents-off coupons on which a bar code uniquely identifying a single user or user group is printed;

- a generic product descriptor printed in the first field of each divider; and
- a brand-name product advertisement printed in the second field of each divider, the

brand-name product belonging to the class of the generic product, the descriptor of which is printed on a divider near the advertisement of said brand-name product.

7. The storage device of claim 5, in which each descriptor is printed on the same divider as the advertisement of said brand-name product.

5

10

15

20

25

<sub>y</sub> 35

40

- 8. The storage device of claim 5, in which the bin has at least one visible field on its outer surface and a retail business advertisement is printed in said field.
- 9. The storage device of claim 5, in which the bin has four side faces and one bottom face and a retail business advertisement is printed on each face.
  - 10. The storage device of claim 5 in which the same retail business advertisement is printed on each face of the bin.
    - 11. A kit for storing manufacturers coupons in an organized manner comprising: a substantially flat blank, the blank being foldable into a storage bin;
  - a plurality of divider sheets, each having defined therein at least one divider card, the divider cards from the plurality of divider sheets being insertable into the storage bin thus separating the storage bin into individual compartments; and
  - a plurality of product cents-off coupons on which a bar code uniquely identifying a single user or user group is printed.
  - 12. The kit of claim 10, in which the divider sheets have printed thereon a bar code uniquely identifying the user or user group.
  - 13. A kit for storing coupons as recited in claim 11 further comprising a plastic wrap embracing the blank and the plurality of divider sheets.
- 30 14. A kit for storing coupons as recited in claim 11 further comprising a plurality of manufacturer coupons insertable into the compartments formed by the storage bin and the divider cards.
  - 15. A kit for storing coupons as recited in claim 13 further comprising a plastic wrap embracing the blank, the plurality of divider sheets and the plurality of manufacturer coupons.
  - 16. A kit for storing coupons as recited in claim 12 wherein the divider cards further comprise a first field for printing a generic product descriptor and a second field for printing a brand-name advertisement.

١.

15

20

25

30

35

- 17. A kit for storing coupons as recited in claim 15 wherein the brand-name advertisement on each card is directed to a product in the class of the generic product descriptor on the card.
- 18. A kit for storing coupons as recited in claim 12 having dimensions suitable to fit within a shopping bag or a direct mail piece envelope.
  - 19. A kit for storing coupons as recited in claim 11 wherein the kit has exterior dimension that permit it to be placed in a conventional paper shopping bag.
- 10 20. A kit as for storing coupons as recited in claim 11 further comprising a grocery bag having an open top and a bottom surface and four side surfaces defining a cubical interior space, the grocery bag having at least one side dimensioned slightly larger than the blank to allow the blank to be inserted into and carried by the bag.
  - 21. A consumer-product kit having component parts capable of being assembled by the consumer for providing a coupon storage device, the kit comprising the combination of:

a blank adapted to be folded into a storage bin having an open top with top edges and a cubical interior space;

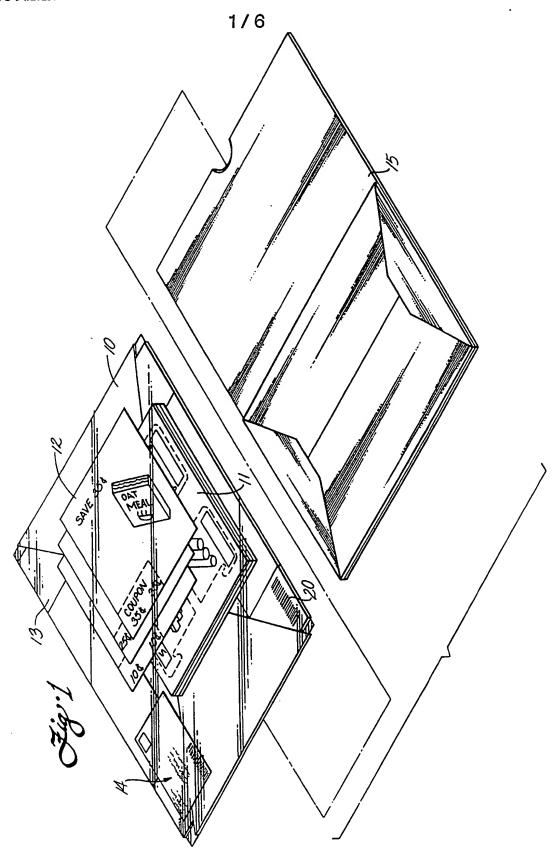
a plurality of divider sheets, each sheet defining at least one removable divider card, the divider cards adapted to be fitted in the bin to separate the space in the bin into individual compartments, each divider card having a first visible field with a generic product descriptor printed therein and a second visible field with a brand-name product advertisement printed therein, each divider card also having top corners with notches into which the side edges of the bin fit; and

a plurality of coupons adapted to be placed into the compartments by the consumer, a bar code uniquely identifying a single user or user group printed on each coupon.

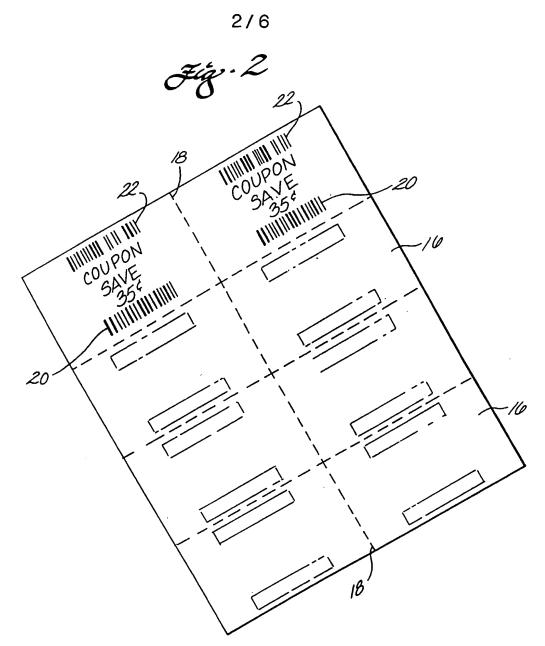
- 22. A consumer-product kit as recited in claim 21 wherein the blank is initially folded in a substantially flat configuration.
- 23. A consumer-product kit as recited in claim 22 wherein the blank, in its initially flat configuration, is sized to fit into a conventional shopping bag.
  - 24. A consumer-device kit as recited in claim 21 further comprising a plastic wrap surrounding and holding together the component parts to provide an integrated kit of component parts.
  - 25. A kit as recited in claim 21 wherein the divider cards in the divider sheets are defined by perforations in the divider sheet so that the divider cards can be removed from the divider sheets.
    - 26. A kit as recited in claim 21 wherein each divider sheet defines four divider cards.

-9-

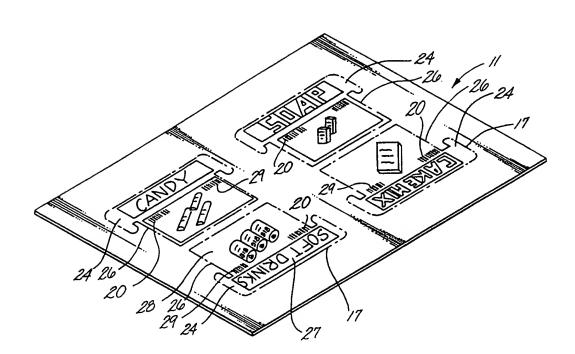
27. A kit as recited in claim 24, additionally comprising a registration card secured to the outside of the cover, the bar code being printed on the registration card.

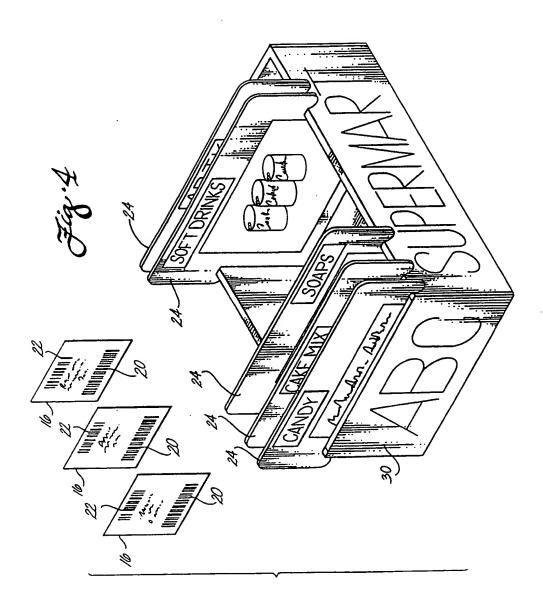












5/6

Fig. 5

POSTAGE PAID

VALUE SAVERS UNLIMITED

REGISTRATION CARD

1234 MAIN ST.

SOME WHERE IN U.S.

VALUE SAVERS UNLIMITED REGISTRATION CARD

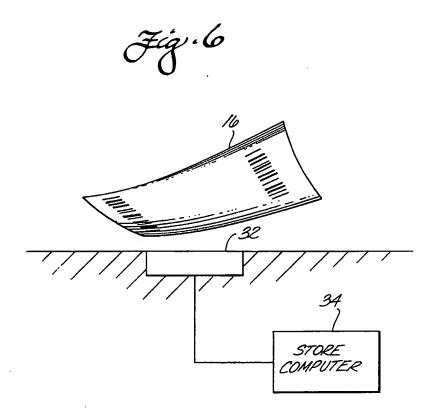
NAME:

ADDRESS:\_\_\_\_\_

CITY:

20 FAMILY SIZE:\_\_\_

6/6



•

### INTERNATIONAL SEARCH REPORT

International application No. PCT/US94/05605

IPC(5): :G06F 15/20; G06K 15/00 US CL: :235/375, 383 According to International Patent Classification (IPC) or to both national classification and IPC  B. FIELDS SEARCHED  Minimum documentation searched (classification system followed by classification symbols) U.S.: 235/375, 383  Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  APS: search terms: coupon, bar code  C. DOCUMENTS CONSIDERED TO BE RELEVANT  Category*  Citation of document, with indication, where appropriate, of the relevant passages  Relevant to claim No.  Y US, A, 4,795,196 (HYUN ET AL)03 JUNE 1989, col. 5, line 40 to col. 6, line 41.  Y US, A, 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.		CONTROL OF CONTROL MADER				
US CL : 235/375, 383  B. FIELDS SEARCHED  Minimum documentation searched (classification system followed by classification symbols)  U.S. : 235/375, 383  Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched extent that such documents are included in the fields searched extent that such documents are included in the fields searched extent that such documents are included in the fields searched extent that such documents are included in the fields searched extent that such documents are included in the fields searched extent that such documents are included in the fields searched extent that such documents are included in the fields searched extent that such documents are included in the fields searched extent that such documents are included in the fields searched extent that such documents are included in the fields searched extent that such documents are included in the fields searched extent that such documents are included in the fields searched extent that such documents are included in the fields searched extent to claim No.  Purchase of the feet and the such as a such as						
According to International Patent Classification (IPC) or to both national classification and IPC  B. FIELDS SEARCHED  Minimum documentation searched (classification system followed by classification symbols)  U.S.: 235/375, 383  Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  APS: search terms: coupon, bar code  C. DOCUMENTS CONSIDERED TO BE RELEVANT  Category*  Citation of document, with indication, where appropriate, of the relevant passages  Relevant to claim No.  U.S., A, 4,795,196 (HYUN ET ALX03 JUNE 1989, col. 5, line 40 to col. 6, line 41.  Y. U.S., A, 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.  Y. U.S., A, 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, lines 32-46 and col. 4, lines 31-38.  Y. U.S., A, 4,908,761 (TAI) 13 MARCH 1990.  1-27  L.S., C.S.,				İ		
Minimum documentation searched (classification system followed by classification symbols)  U.S.: 235/375, 383  Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  APS: search terms: coupon, bar code  C. BOCUMENTS CONSIDERED TO BE RELEVANT  Category*  Citation of document, with indication, where appropriate, of the relevant passages  Relevant to claim No.  1.10  U.S., A., 4,795,196 (HYUN ET AL)/3 JUNE 1989, col. 5, line 40 to col. 6, line 41.  Y. U.S., A., 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.  Y. U.S., A., 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, lines 60 to col. 6 line 22.  U.S., A., 4,908,761 (TAI) 13 MARCH 1990.  1.27  I. Special enterports of chief decomments:  ** Special enterports of chief decomments to be of preferred another chieflow the preferred with any strong document and familiary than the continuation of Box C.  See patent family annex.  ** Special enterports of chief decomments to be offended for the chiefle invention occasion to be offended private an invention of the country and chiefle the family annex.  ** Special enterports of chief decomments to be offended for the chiefle invention occasion to be offended private an invention occasion to be offended private an invention occasion to occasion in this husber of country and country and invention occasion to a private and formation occasion to a private and formation occasion to a private and country and invention occasion to a private and country and incurred from the country and invention occasion to a private and c	According to	o International Patent Classification (IPC) or to both it	ational classification and IPC	i		
Minimum documentation searched (classification system followed by classification symbols)  U.S.: 235/375, 383  Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched experiments are included at the fields searched as a search terms: coupon, bar code  C. DOCUMENTS CONSIDERED TO BE RELEVANT  Category*  Citation of document, with indication, where appropriate, of the relevant passages  Relevant to claim No.  U.S., A., 4,795,196 (HYUN ET AL)(3) JUNE 1989, col. 5, line 40 to col. 6, line 41.  Y. U.S., A., 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.  Y. U.S., A., 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, lines 60 to col. 6 line 22.  A. U.S., A., 4,908,761 (TAI) 13 MARCH 1990.  1-27						
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  APS: search terms: coupon, bar code  C. DOCUMENTS CONSIDERED TO BE RELEVANT  Category*  Citation of document, with indication, where appropriate, of the relevant passages  Relevant to claim No.  US, A, 4,795,196 (HYUN ET AL)/3 JUNE 1989, col. 5, line 40 to col. 6, line 41.  Y. US, A, 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.  Y. US, A, 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, line 60 to col. 6 line 22.  A. US, A, 4,908,761 (TAI) 13 MARCH 1990.  Further documents are listed in the continuation of Box C.  See patent family annex.  ** Special consporting of chief decoments:  ** Consumed defining the greening axes of the service of the section of contains are of the service or other practial research axes of contains and of the service or other services to consider or other services or other serv			hy classification symbols)			
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  APS: search terms: coupon, bar code  C. DOCUMENTS CONSIDERED TO BE RELEVANT  Category*  Citation of document, with indication, where appropriate, of the relevant passages  Relevant to claim No.  US, A, 4,795,196 (HYUN ET AL)03 JUNE 1989, col. 5, line 40 to col. 6, line 41.  Y. US, A, 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.  Y. US, A, 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, line 60 to col. 6 line 22.  A. US, A, 4,908,761 (TAI) 13 MARCH 1990.  1-27  See patent family annex.  1-27  Local tasgeties of clad documents are listed in the continuation of Box C.  See patent family annex.  1-27  Local tasgeties of clad documents to the first transitional filing data to be of puricular relevance.  1-3-  1-27  Local tasgeties of clad documents which any throw docks on priority claim claims date of the survival color of the claims of the priority date claims do the survival to the priority date claims.  1-3-  1-4-  1-5-  1-5-  1-6-  1-7	Minimum d	ocumentation searched (classification system tollowed	by classification symbols,			
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  APS: search terms: coupon, bar code  C. DOCUMENTS CONSIDERED TO BE RELEVANT  Category*  Citation of document, with indication, where appropriate, of the relevant passages  Relevant to claim No.  US, A, 4,795,196 (HYUN ET ALX03 JUNE 1989, col. 5, line 40 to col. 6, line 41.  Y. US, A, 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.  Y. US, A, 5,060,793 (HYUN ET ALX) 29 OCTOBER 1991, col. 4, line 60 to col. 6 line 22.  A. US, A, 4,908,761 (TAI) 13 MARCH 1990.  1-27  See patent family annex.  **A document defining the general case of the an which is not considered to be of puriodar relevance. the chained invention denome to claim of entry them denotes on principly date and on the conflict with the application or cannot be of consument which may there denotes on principly date and on the conflict with the application of the international filing data or principly date and on the conflict with the application of the international filing data or principly date and on the conflict with the application of the international filing data or principly date and on the conflict with the application of the international filing data or principly date and on the conflict with the application of the international filing data or principly date and in conflict with the application of the international filing data to conflict with the application of the international search  **Consument referring to us and disclosure, use, exhibition or other data internation at an and consument application of the international search  **Consument referring to us and disclosure, use, exhibition or other data and consument published principles.  **Consument referring to us and disclosure, use, exhibition or other data and consument published principles.  **Consument referring to us and disclosure, use, exhibition or other data and consument application of the international search  **Consument ref	U.S. : 2	23 <i>51</i> 375, 383				
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  APS: search terms: coupon, bar code  C. DOCUMENTS CONSIDERED TO BE RELEVANT  Category*  Citation of document, with indication, where appropriate, of the relevant passages  Relevant to claim No.  US, A, 4,795,196 (HYUN ET ALX03 JUNE 1989, col. 5, line 40 to col. 6, line 41.  Y. US, A, 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.  Y. US, A, 5,060,793 (HYUN ET ALX) 29 OCTOBER 1991, col. 4, line 60 to col. 6 line 22.  A. US, A, 4,908,761 (TAI) 13 MARCH 1990.  1-27  See patent family annex.  **A document defining the general case of the an which is not considered to be of puriodar relevance. the chained invention denome to claim of entry them denotes on principly date and on the conflict with the application or cannot be of consument which may there denotes on principly date and on the conflict with the application of the international filing data or principly date and on the conflict with the application of the international filing data or principly date and on the conflict with the application of the international filing data or principly date and on the conflict with the application of the international filing data or principly date and on the conflict with the application of the international filing data or principly date and in conflict with the application of the international filing data to conflict with the application of the international search  **Consument referring to us and disclosure, use, exhibition or other data internation at an and consument application of the international search  **Consument referring to us and disclosure, use, exhibition or other data and consument published principles.  **Consument referring to us and disclosure, use, exhibition or other data and consument published principles.  **Consument referring to us and disclosure, use, exhibition or other data and consument application of the international search  **Consument ref						
APS: search terms: coupon, bar code  C. DOCUMENTS CONSIDERED TO BE RELEVANT  Category*  Citation of document, with indication, where appropriate, of the relevant passages  Relevant to claim No.  1-10  U.S. A, 4,795,196 (HYUN ET AL)/3 JUNE 1989, col. 5, line 40 to col. 6, line 41.  Y. U.S. A, 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.  Y. U.S. A, 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, line 60 to col. 6 line 22.  A. U.S. A, 4,908,761 (TAI) 13 MARCH 1990.  1-27  Local particular decomposition of ched documents  ** Special categories or ched documents  ** to document which may throw durbe on priority chesingly or which is  ** citat to rembials the publication data of a souther citation or other  ** document referring to as and disclosure, use, exhibition or other  ** document published prior to the international search  ** document published prior to the int	Documentat	ion searched other than minimum documentation to the	extent that such documents are included	in the helds searched		
APS: search terms: coupon, bar code  C. DOCUMENTS CONSIDERED TO BE RELEVANT  Category*  Citation of document, with indication, where appropriate, of the relevant passages  Relevant to claim No.  1-10  U.S. A, 4,795,196 (HYUN ET AL)/3 JUNE 1989, col. 5, line 40 to col. 6, line 41.  Y. U.S. A, 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.  Y. U.S. A, 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, line 60 to col. 6 line 22.  A. U.S. A, 4,908,761 (TAI) 13 MARCH 1990.  1-27  Local particular decomposition of ched documents  ** Special categories or ched documents  ** to document which may throw durbe on priority chesingly or which is  ** citat to rembials the publication data of a souther citation or other  ** document referring to as and disclosure, use, exhibition or other  ** document published prior to the international search  ** document published prior to the int				,		
APS: search terms: coupon, bar code  C. DOCUMENTS CONSIDERED TO BE RELEVANT  Category*  Citation of document, with indication, where appropriate, of the relevant passages  Relevant to claim No.  1-10  U.S. A, 4,795,196 (HYUN ET AL)/3 JUNE 1989, col. 5, line 40 to col. 6, line 41.  Y. U.S. A, 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.  Y. U.S. A, 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, line 60 to col. 6 line 22.  A. U.S. A, 4,908,761 (TAI) 13 MARCH 1990.  1-27  Local particular decomposition of ched documents  ** Special categories or ched documents  ** to document which may throw durbe on priority chesingly or which is  ** citat to rembials the publication data of a souther citation or other  ** document referring to as and disclosure, use, exhibition or other  ** document published prior to the international search  ** document published prior to the int						
APS: search terms: coupon, bar code  C. DOCUMENTS CONSIDERED TO BE RELEVANT  Category*  Citation of document, with indication, where appropriate, of the relevant passages  Relevant to claim No.  1-10  U.S. A, 4,795,196 (HYUN ET AL)/3 JUNE 1989, col. 5, line 40 to col. 6, line 41.  Y. U.S. A, 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.  Y. U.S. A, 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, line 60 to col. 6 line 22.  A. U.S. A, 4,908,761 (TAI) 13 MARCH 1990.  1-27  Local particular decomposition of ched documents  ** Special categories or ched documents  ** to document which may throw durbe on priority chesingly or which is  ** citat to rembials the publication data of a souther citation or other  ** document referring to as and disclosure, use, exhibition or other  ** document published prior to the international search  ** document published prior to the int	Electronic d	ata base consulted during the international search (nar	ne of data base and, where practicable,	search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT  Category*  Citation of document, with indication, where appropriate, of the relevant passages  Relevant to claim No.  U.S., A., 4,795,196 (HYUN ET AL)03 JUNE 1989, col. 5, line 40 to col. 6, line 41.  U.S., A., 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.  U.S., A., 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, line 60 to col. 6 line 22.  A. U.S., A., 4,908,761 (TAI) 13 MARCH 1990.  1-27  Special categories of ched documents:  ** Special categories of ch				İ		
Category* Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No.  U.S., A., 4,795,196 (HYUN ET AL)03 JUNE 1989, col. 5, line 40 to col. 6, line 41.  U.S., A., 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.  U.S., A., 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, line 60 to col. 6 line 22.  A. U.S., A., 4,908,761 (TAI) 13 MARCH 1990.  1-27  Special categories of clad documents:  A. document defining the grown state of the sir which is not considered to be of particular relevant positions or or after the international filing data or priority that the continuation or other the international filing data or priority in the document positions or other the international filing data or priority claim for the continuation or other the international filing data or priority claim for the original positions or other the international filing data or priority claim for the priority of the comment positions or other the international filing data or priority claim for the original positions or other the international filing data or priority claim for the priority of the chained invention caused to priority claim for the priority date chained or other the international filing data but later than the document of particular relevance the claimed invention caused to considered to invention caused to considered to invention scanes to priority claim for the international filing data but later than the document of particular relevance claim for priority date chained invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused t	Ar 3. 360	reti terria. Cooperi, aai aasa				
Category* Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No.  U.S., A., 4,795,196 (HYUN ET AL)03 JUNE 1989, col. 5, line 40 to col. 6, line 41.  U.S., A., 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.  U.S., A., 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, line 60 to col. 6 line 22.  A. U.S., A., 4,908,761 (TAI) 13 MARCH 1990.  1-27  Special categories of clad documents:  A. document defining the grown state of the sir which is not considered to be of particular relevant positions or or after the international filing data or priority that the continuation or other the international filing data or priority in the document positions or other the international filing data or priority claim for the continuation or other the international filing data or priority claim for the original positions or other the international filing data or priority claim for the priority of the comment positions or other the international filing data or priority claim for the original positions or other the international filing data or priority claim for the priority of the chained invention caused to priority claim for the priority date chained or other the international filing data but later than the document of particular relevance the claimed invention caused to considered to invention caused to considered to invention scanes to priority claim for the international filing data but later than the document of particular relevance claim for priority date chained invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused to considered to invention caused t						
US, A, 4,795,196 (HYUN ET AL)03 JUNE 1989, col. 5, line 40 to col. 6, line 41.  US, A, 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.  US, A, 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, line 60 to col. 6 line 22.  US, A, 4,908,761 (TAI) 13 MARCH 1990.  Further documents are listed in the continuation of Box C.  Special categories of child documents:  'A' document defining the general sate of the an which is not considered to be of puricular relevance  'C' active document which any three doubts on priority claim(s) or which is cited to enablish the publication date of another claims or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as special reason (as special reason (as special reason (as special reason (as special reason (as special reason (as special reason (as special reason (as special reason (a	C. DOC	UMENTS CONSIDERED TO BE RELEVANT				
US, A, 4,795,196 (HYUN ET AL)03 JUNE 1989, col. 5, line 40 to col. 6, line 41.  US, A, 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.  US, A, 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, line 60 to col. 6 line 22.  US, A, 4,908,761 (TAI) 13 MARCH 1990.  Further documents are listed in the continuation of Box C.  Special categories of child documents:  'A' document defining the general sate of the an which is not considered to be of puricular relevance  'C' active document which any three doubts on priority claim(s) or which is cited to enablish the publication date of another claims or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other special reason (as special reason (as special reason (as special reason (as special reason (as special reason (as special reason (as special reason (as special reason (as special reason (a	Colonaria	Citation of document with indication Where an	monriste, of the relevant passages	Relevant to claim No.		
40 to col. 6, line 41.  Y US, A, 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.  Y US, A, 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, line 60 to col. 6 line 22.  A US, A, 4,908,761 (TAI) 13 MARCH 1990.  1-27  * Special estepories of ched documents  *	Category	Charles of document, white acceptant, where ap-	, , , , , , , , , , , , , , , , , , , ,			
40 to col. 6, line 41.  Y US, A, 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.  Y US, A, 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, line 60 to col. 6 line 22.  A US, A, 4,908,761 (TAI) 13 MARCH 1990.  1-27  * Special estepories of ched documents  *	V	LIC A A 795 196 (HVIIN FT ALW	3 JUNE 1989, col. 5, line	1-10		
U.S., A., 5,039,075 (MAYER) 13 AUGUST 1991, col. 1, lines 32-46 and col. 4, lines 31-38.  U.S., A., 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, line 60 to col. 6 line 22.  A. U.S., A., 4,908,761 (TAI) 13 MARCH 1990.  1-27  Special categories of cited documents:  'A' document defining the grown state of the sit which is not considered to be particular relevance.  'E' cartier document which may have deades on priority claim(d) or which is cited to enablish the publication date of another cited on or other special reason (as apportion date of the sit will be reposited to be enablished to the cartier document published on or other special reason (as apportion date of another citation or other special reason (as apportion date of another citation or other special reason (as apportion).  O' document spublished prior to the international filing date but later than the priority date chaimed  Date of the actual completion of the international search  29 AUGUST 1994  Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT  Washington, D.C. 20231  11-27  Later document spublished prior to the international search Patents and Trademarks Box PCT  Washington, D.C. 20231	T		3 00112 13 00 , con 0,			
32-46 and col. 4, lines 31-38.  Y US, A, 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, line 60 to col. 6 line 22.  A US, A, 4,908,761 (TAI) 13 MARCH 1990.  1-27  See patent family annex.  * Special estepories of chod documents:  *A' document defining the general state of the srt which is not considered to be of particular relevance to be of particular relevance to the document which may throw doubts on priority claim() or which is cited to enablish the publication date of snother citation or other special reason (as specified)  *A' document which may throw doubts on priority claim() or which is cited to enablish the publication date of snother citation or other special reason (as specified)  *A' document which may throw doubts on priority claim() or which is cited to enablish the publication date of snother citation or other special reason (as specified)  *A' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  *A' document published prior to the knormational filing date but later than the priority date chimal of the comment is combined or to reason the considered to involves an invention cannot be considered to involves an invention cannot be considered to involve an invention cannot be considered or to reason or ones other reason cannot be considered to involve an invention cannot be considered to involve an invention cannot be considered or to reason to considered or to reasons the channel invention cannot be considered to involve an invention cannot be considered to involve an invention cannot be considered to involve an invention cannot be considered or to reasons the channel invention cannot be considered to involve an one other exhannel and comments is combined with one or ones other exhannel to invention cannot be considered to involve as ones other exhannel and comments, such combination being divious to a person addition in the art  *A' document member of the same patent family  *A' document member of the same patent family  *A' document member of the sam		40 to col. 6, line 41.				
32-46 and col. 4, lines 31-38.  Y US, A, 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, line 60 to col. 6 line 22.  A US, A, 4,908,761 (TAI) 13 MARCH 1990.  1-27  See patent family annex.  * Special estepories of chod documents:  *A' document defining the general state of the srt which is not considered to be of particular relevance to be of particular relevance to the document which may throw doubts on priority claim() or which is cited to enablish the publication date of snother citation or other special reason (as specified)  *A' document which may throw doubts on priority claim() or which is cited to enablish the publication date of snother citation or other special reason (as specified)  *A' document which may throw doubts on priority claim() or which is cited to enablish the publication date of snother citation or other special reason (as specified)  *A' document referring to an oral disclosure, use, exhibition or other special reason (as specified)  *A' document published prior to the knormational filing date but later than the priority date chimal of the comment is combined or to reason the considered to involves an invention cannot be considered to involves an invention cannot be considered to involve an invention cannot be considered or to reason or ones other reason cannot be considered to involve an invention cannot be considered to involve an invention cannot be considered or to reason to considered or to reasons the channel invention cannot be considered to involve an invention cannot be considered to involve an invention cannot be considered to involve an invention cannot be considered or to reasons the channel invention cannot be considered to involve an one other exhannel and comments is combined with one or ones other exhannel to invention cannot be considered to involve as ones other exhannel and comments, such combination being divious to a person addition in the art  *A' document member of the same patent family  *A' document member of the same patent family  *A' document member of the sam			ICUCT 1001 and 1 lines	1 27		
US, A, 5,060,793 (HYUN ET AL) 29 OCTOBER 1991, col. 4, line 60 to col. 6 line 22.  A US, A, 4,908,761 (TAI) 13 MARCH 1990.  * Special categories of chod documents:  *A Special categories of chod documents:  *A document defining the general state of the art which is not considered to be of particular relevances to a considered to be of particular relevances to a considered to be of particular relevances to a considered to the particular relevance to a considered to involve an inventive stap when the document of particular relevance; the claimed involves an inventive stap when the document is taken alone  *B document priority date chaimed  *A document priority date priority	Υ		16051 1991, col. 1, lines	1-27		
Iline 60 to col. 6 line 22.   US, A, 4,908,761 (TAI) 13 MARCH 1990.   1-27		32-46 and col. 4, lines 31-38.				
Iline 60 to col. 6 line 22.   US, A, 4,908,761 (TAI) 13 MARCH 1990.   1-27						
Iline 60 to col. 6 line 22.   US, A, 4,908,761 (TAI) 13 MARCH 1990.   1-27	Υ	US. A. 5.060,793 (HYUN ET AL) 2	9 OCTOBER 1991, col. 4,	11-27		
Further documents are listed in the continuation of Box C.  See patent family annex.  Special estegories of cited documents:  document defining the general state of the art which is not considered to be of particular relevances  cartier document published on or after the international filling date or cartier document published on or after the international filling date or cartier document published on or after the international filling date or cartier document published on or after the international filling date or cartier document published on or after the international filling date or cartier document published to entablish the publication but chied to understand the principle or decrement of particular relevance; the claimed invention cannot be considered to involve as inventive new when the document of particular relevance; the claimed invention cannot be considered to involve as inventive new when the document of particular relevance; the claimed invention cannot be considered to involve as inventive new when the document of particular relevance; the claimed invention cannot be considered to involve as inventive new when the document is advantaged to involve as inventive new when the document of particular relevance; the claimed invention cannot be considered to involve as inventive new when the document of particular relevance; the claimed invention cannot be considered to involve as inventive new when the document of particular relevance; the claimed invention cannot be considered to involve as inventive new when the document of particular relevance; the claimed invention cannot be considered to involve as inventive new when the document of particular relevance; the claimed invention cannot be considered to involve as inventive new when the document of particular relevance; the claimed invention cannot be considered to involve as inventive new when the document of particular relevance; the claimed invention cannot be considered to involve as inventive new when the document of particular relevance; the cl	,	line 60 to col. 6 line 22.				
Further documents are listed in the continuation of Box C.  Special estegories of cited documents:  A Special estegories of cited documents:  A document defining the general state of the art which is not considered to be of particular relevance earlier document published or or after the international filing date.  L document which may throw doubts on priority claim(s) or which is cited to enablish the publication date of another citation or other special reason (as openified).  O document referring to an oral disclosure, use, exhibition or other means  P document referring to an oral disclosure, use, exhibition or other the priority date claimed  Date of the actual completion of the international search  29 AUGUST 1994  Name and mailing address of the ISA/US Commissioner of Patents and Trademarks  BOX PCT  Washington, D.C. 20231  See patent family annex.  It learned to international filing date or priority date on the comment.  T learned No. — See patent family annex.  It learned to international filing date or priority date in conflict with the spilication but clied to understand the occasion of particular relevance; the claimed invention cannot be considered to involve an investive step when the document is taken alone document of particular relevance; the claimed invention cannot be considered to involve an investive step when the document is combined with one or more other such documents in taken alone  Accument of particular relevance; the claimed invention cannot be considered to involve an investive step when the document is combined with one or more other such documents in taken alone  Accument of particular relevance; the claimed invention cannot be considered to involve an investive step when the document is taken alone  Accument of particular relevance; the claimed invention cannot be considered to involve an investive step when the document is taken alone  Accument of particular relevance; the claimed invention on the considered to involve an investive step when the document is taken alone  Accument		line do to don o milo de.				
Further documents are listed in the continuation of Box C.  Special estegories of cited documents:  A Special estegories of cited documents:  A document defining the general state of the art which is not considered to be of particular relevance earlier document published or or after the international filing date.  L document which may throw doubts on priority claim(s) or which is cited to enablish the publication date of another citation or other special reason (as openified).  O document referring to an oral disclosure, use, exhibition or other means  P document referring to an oral disclosure, use, exhibition or other the priority date claimed  Date of the actual completion of the international search  29 AUGUST 1994  Name and mailing address of the ISA/US Commissioner of Patents and Trademarks  BOX PCT  Washington, D.C. 20231  See patent family annex.  It learned to international filing date or priority date on the comment.  T learned No. — See patent family annex.  It learned to international filing date or priority date in conflict with the spilication but clied to understand the occasion of particular relevance; the claimed invention cannot be considered to involve an investive step when the document is taken alone document of particular relevance; the claimed invention cannot be considered to involve an investive step when the document is combined with one or more other such documents in taken alone  Accument of particular relevance; the claimed invention cannot be considered to involve an investive step when the document is combined with one or more other such documents in taken alone  Accument of particular relevance; the claimed invention cannot be considered to involve an investive step when the document is taken alone  Accument of particular relevance; the claimed invention cannot be considered to involve an investive step when the document is taken alone  Accument of particular relevance; the claimed invention on the considered to involve an investive step when the document is taken alone  Accument		LIC A 4 909 761 (TAI) 13 MARC	H 1990.	1-27		
Special estegories of cited documents:  'A' document defining the general state of the art which is not considered to be of particular relevance  'E' cartier document published on or after the international filing date  'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other means  'P' document published prior to the international filing date but later than the priority date claimed  Date of the actual completion of the international search  Date of mailing address of the ISA/US  Commissioner of Patents and Trademarks  Box PCT  Washington, D.C. 20231  Telephone No. (703) 305-3505	^	03, A, 4,308,701 (1A), 13 MAII	11 10001			
Special estegories of cited documents:  'A' document defining the general state of the art which is not considered to be of particular relevance  'E' cartier document published on or after the international filing date  'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other means  'P' document published prior to the international filing date but later than the priority date claimed  Date of the actual completion of the international search  Date of mailing address of the ISA/US  Commissioner of Patents and Trademarks  Box PCT  Washington, D.C. 20231  Telephone No. (703) 305-3505	,					
Special estegories of cited documents:  'A' document defining the general state of the art which is not considered to be of particular relevance  'E' cartier document published on or after the international filing date  'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other means  'P' document published prior to the international filing date but later than the priority date claimed  Date of the actual completion of the international search  Date of mailing address of the ISA/US  Commissioner of Patents and Trademarks  Box PCT  Washington, D.C. 20231  Telephone No. (703) 305-3505						
Special estegories of cited documents:  'A' document defining the general state of the art which is not considered to be of particular relevance  'E' cartier document published on or after the international filing date  'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other means  'P' document published prior to the international filing date but later than the priority date claimed  Date of the actual completion of the international search  Date of mailing address of the ISA/US  Commissioner of Patents and Trademarks  Box PCT  Washington, D.C. 20231  Telephone No. (703) 305-3505		,				
Special estegories of cited documents:  'A' document defining the general state of the art which is not considered to be of particular relevance  'E' cartier document published on or after the international filing date  'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other means  'P' document published prior to the international filing date but later than the priority date claimed  Date of the actual completion of the international search  Date of mailing address of the ISA/US  Commissioner of Patents and Trademarks  Box PCT  Washington, D.C. 20231  Telephone No. (703) 305-3505		·				
Special estegories of cited documents:  'A' document defining the general state of the art which is not considered to be of particular relevance  'E' cartier document published on or after the international filing date  'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other means  'P' document published prior to the international filing date but later than the priority date claimed  Date of the actual completion of the international search  Date of mailing address of the ISA/US  Commissioner of Patents and Trademarks  Box PCT  Washington, D.C. 20231  Telephone No. (103) 305-3505						
Special estegories of cited documents:  'A' document defining the general state of the art which is not considered to be of particular relevance  'E' cartier document published on or after the international filing date  'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other means  'P' document published prior to the international filing date but later than the priority date claimed  Date of the actual completion of the international search  Date of mailing address of the ISA/US  Commissioner of Patents and Trademarks  Box PCT  Washington, D.C. 20231  Telephone No. (103) 305-3505						
Special estegories of cited documents:  'A' document defining the general state of the art which is not considered to be of particular relevance  'E' cartier document published on or after the international filing date  'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other means  'P' document published prior to the international filing date but later than the priority date claimed  Date of the actual completion of the international search  Date of mailing address of the ISA/US  Commissioner of Patents and Trademarks  Box PCT  Washington, D.C. 20231  Telephone No. (103) 305-3505	ļ					
Special estegories of cited documents:  'A' document defining the general state of the art which is not considered to be of particular relevance  'E' cartier document published on or after the international filing date  'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other means  'P' document published prior to the international filing date but later than the priority date claimed  Date of the actual completion of the international search  Date of mailing address of the ISA/US  Commissioner of Patents and Trademarks  Box PCT  Washington, D.C. 20231  Telephone No. (103) 305-3505						
Special estegories of cited documents:  'A' document defining the general state of the art which is not considered to be of particular relevance  'E' cartier document published on or after the international filing date  'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other means  'P' document published prior to the international filing date but later than the priority date claimed  Date of the actual completion of the international search  Date of mailing address of the ISA/US  Commissioner of Patents and Trademarks  Box PCT  Washington, D.C. 20231  Telephone No. (703) 305-3505	Further documents are listed in the continuation of Box C. See patent family annex.					
'A' document defining the general state of the art which is not considered to be of particular relevance  'E' earlier document published on or after the international filling data  'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication data of another citation or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other means  'P' document published prior to the international filling date but later than the priority date claimed  Date of the actual completion of the international search  29 AUGUST 1994  Name and mailing address of the ISA/US  Commissioner of Patents and Trademarks  Box PCT  Washington, D.C. 20231  Telephone No. (703) 305-3505	<u> </u>		"T" later document published after the int	creational filing date or priority		
'E' cartier document published on or after the international filing date  'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other means  'P' document published prior to the international filing date but later than the priority date claimed  Date of the actual completion of the international search  29 AUGUST 1994  Name and mailing address of the ISA/US  Commissioner of Patents and Trademarks  Box PCT  Washington, D.C. 20231  "X' document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken above  "A' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is taken above  "A' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is taken above  "A' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is taken above  "A' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is taken above  "A' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is taken above  "A' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is taken above  "A' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is taken above  "A' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is taken above  "A' document of particular relevance; the claimed invention cannot be considered to involve an inventive st			date and not in conflict with the applic	action but cited to understand the		
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication data of another citation or other special reason (as specified)  "O" document referring to an oral disclosure, use, exhibition or other messas  "P" document published prior to the international filing date but later than the priority date claimed  Date of the actual completion of the international search  29 AUGUST 1994  Name and mailing address of the ISA/US  Commissioner of Patents and Trademarks  Box PCT  Washington, D.C. 20231  Considered novel or cannot be considered to involve an inventive step when the document is taken about the characteristic or other who the document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art  "&" document member of the same patent family  Date of mailing of the international search report  Of SEP 1994  Authorized officer  JEFFREY R. FILIPEK  JUG 13 305-3505	to	be of particular relevance				
cited to establish the publication data of another citation or other receils reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other messas  'P' document published prior to the international filing date but later than the priority date claimed  Date of the actual completion of the international search  29 AUGUST 1994  Name and mailing address of the ISA/US  Commissioner of Patents and Trademarks  Box PCT  Washington, D.C. 20231  Telephone No. (703) 305-3505	.Е. a	riler document published on or after the international filing date	considered novel or cannot be conside	ered to involve an inventive step		
occurrent referring to an oral disclosure, use, exhibition or other means  'P' document published prior to the international filing date but later than the priority date claimed  Date of the actual completion of the international search  29 AUGUST 1994  Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Waxhington, D.C. 20231  Considered to involve an inventive step when the document is combined with one or more other auch documents, such combination being obvious to a person skilled in the art  '&' document member of the same patent family  Date of mailing of the international search report  06 SEP 1994  Authorized officer  JEFFREY R. FILIPEK  May all  Telephore No. (703) 305-3505	.r. qe	ocument which may throw doubts on priority claim(s) or which is				
**O' document referring to an oral disclosure, use, exhibition or other means  **P' document published prior to the international filing date but later than the priority date claimed  Date of the actual completion of the international search  29 AUGUST 1994  Name and mailing address of the ISA/US  Commissioner of Patents and Trademarks  Box PCT  Washington, D.C. 20231  Telephone No. (703) 305-3505	cited to establish the publication data of another citation or other					
"P" document published prior to the international filing date but later than the priority date claimed  Date of the actual completion of the international search  29 AUGUST 1994  Date of mailing of the international search  06 SEP 1994  Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231  Telephone No. (703) 305-3505	1 .		combined with one or more other suc	h documents, such combination		
Date of the actual completion of the international search  29 AUGUST 1994  Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231  Date of mailing of the international search report  0 6 SEP 1994  Authorized officer  JEFFREY R. FILIPEK  May all  Telephore No. (703) 305-3505	-					
Date of the actual completion of the international search  29 AUGUST 1994  Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231  Date of mailing of the international search  0 6 SEP 1994  Authorized officer  JEFFREY R. FILIPEK  May all  Talenbora No. (703) 305-3505	P de	the priority date claimed				
29 AUGUST 1994  Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Waxhington, D.C. 20231  Authorized officer JEFFREY R. FILIPEK JUGA Value Telephore No. (703) 305-3505		Date of the actual completion of the international search  Date of mailing of the international search report				
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231  Authorized officer  JEFFREY R. FILIPEK  JUGA V alu-  Telephone No. (103) 305-3505	06 SEP 1994					
Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Telephone No. (703) 305-3505	29 AUGUST 1994					
Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231  Telephone No. (703) 305-3505	Name and	mailing address of the ISA/US	Authorized officer			
Telephone No. (703) 30%-3505	Commissioner of Patents and Trademarks					
Telephone No. (703) 30%-3505	Box PCT JEFFREY R. FILIPEK J HOW Washington, D.C. 20231					
	1					